

## Remarks

Reconsideration of the rejections set forth in the Office Action dated August 9, 2005 is respectfully requested. Claims 1-31 are currently pending. Claims 5 and 6 have been objected to, while claims 1-4 and 7-31 have been rejected.

### Allowable Subject Matter

Claims 5 and 6 have been objected to as being dependent upon a rejected base claim. The Examiner has indicated that claims 5 and 6 would be allowable if rewritten in independent form to include all of the limitations of their base claim and any intervening claims. As the Applicant believes that independent claim 1, from which claims 5 and 6 each depend, is allowable over the cited art, the Applicant has chosen not to rewrite claims 5 and 6 in independent form at this time.

### Rejections under 35 U.S.C. § 103

Claims 1-4 and 7-31 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. US 2002/0150041 filed by Reinshmidt et al., herein after “Reinshmidt” in view of U.S. Patent Application Publication No. US 2003/0204619 filed by Bays, herein after “Bays.”

#### *1. Independent Claims 1, 14, 25, 31, and their respective dependents*

Independent claim 1 recites a method for detecting a forwarding problem within an autonomous system. The method includes forwarding a message from a source node of the autonomous system along a path to an external address that is not an address located within the autonomous system. The message is removed from the path at a destination node of the autonomous system, and a response is initiated from the destination node that is arranged to be sent to the source node along a first path segment of the path. The response is arranged to indicate that the intermediate node does not have a forwarding problem.

The Examiner has argued that Reinshmidt teaches the limitations of claim 1, except for the limitation or removing the message from the path at the destination node. For this limitation, the Examiner cites the teachings of Bays.

Claim 1 recites that a response is initiated from the destination node that is arranged to be sent to the source node along a first path segment of the path, and that the response is arranged to indicate that the intermediate node does not have a forwarding problem. The Examiner has cited Fig. 1 of Reinshmidt, as well as paragraphs [0073] and [0074] of Reinshmidt, as teaching this limitation. It is respectfully submitted that neither the figures nor the paragraphs even reasonably suggest initiating any response that indicates that an intermediate node does not have a forwarding problem. Reinshmidt discusses intermediate nodes, but does not describe any response that indicates that an intermediate node does not have a forwarding problem.

On page 3 of the Office Action dated January 25, 2006, in his argument that Reinshmidt teaches that a response is initiated from a destination node, the Examiner states:

“initiating a response (target reply) from the destination node (B2), the response being arranged to be sent along the first path segment (14) from the destination node (B2) to the source node (a2), wherein the response is arranged to indicate that the intermediate node (C,D, ...) does not have a forwarding problem...”

It is not clear to the Applicant which element of Reinshmidt the Examiner considers to be a “target reply.” Clarification is respectfully requested. The Applicant is unable to locate any teaching of a target reply anywhere in Reinshmidt. At best, Reinshmidt discloses at paragraph [0025] that a ping packet reaches a destination node and returns to a source node. Such a ping packet is not initiated from the destination node, as the ping packet is initiated by the source node and returned to the source node. As Reinshmidt does not appear to teach initiating a response from a destination node that is sent to a source node and indicates that an intermediate node does not have a forwarding problem, claim 1 is believed to be allowable over the cited art for at least this reason.

The Examiner has admitted that Reinshmidt does not teach of removing a message from a path at a destination node. It is respectfully submitted that contrary to the Examiner’s arguments, Bays also does not teach of removing the message (*i.e.*, the message arranged to be sent to a message destination that is an external address) from the path at the destination node. The passage cited by the Examiner at paragraphs [0074] and [0075] includes the following

statement, which was also quoted by the Examiner on page 4 of the Office Action dated January 26, 2005:

“...routing control device 20 can **not** expect to consistently receive a ... code three response allowing it to explicitly determine that the last **intermediate system in a given path** has been reached and to terminate the probing sequence... routing control device 20 terminates the transmission of probe packets, if it receives any kind of ... type three response....” [emphasis added]

It is respectfully submitted that an intermediate system is not equivalent to a destination node as recited in claim 1. At paragraph [0072], Bays discloses that a target selection process seeks to identify the last intermediate system in a path to a destination network. As the last intermediate system is the target intermediate system, the traceroute utility sends a message that has the target intermediate system as a destination. This message is not arranged to be sent to a message destination that is not the target intermediate system. In other words, Bays appears to disclose that a last intermediate system in a path is the intended destination of a traceroute message.

The passage of Bays cited by the Examiner discloses that a routing control device terminates the transmission of probe packets. The routing control device is described by Bays as sending the probe packets in paragraph [0075]. Hence, the Applicant submits that terminating the transmission of probe packets using a routing control device is not equivalent to removing a message from a path at a destination node. Bays does not teach of, or reasonably suggest, removing a message from a path at a destination node but, instead, discloses ceasing the sending of messages to an intermediate system. No message appears to be removed from any path at a destination node in Bays. A “probing sequence” is not terminated in Bays by removing it from a path at a destination node. Rather, a “probing sequence” is terminated in Bays by not sending it from a source node. Therefore, claim 1 is also believed to be allowable over the cited art for at least these reasons as well.

Claims 2-7 each depend either directly or indirectly from claim 1 and are, therefore, each believed to be allowable over the cited art for at least the reasons set forth above with respect to claim 1. Each of these dependent claims recites additional limitations which, when considered in light of claim 1, are believed to further distinguish the claimed invention over the cited art. By

way of example, the Examiner has already indicated that he believes claims 5 and 6 contain allowable subject matter.

Independent claims 14, 25, and 31 each recite similar limitations as recited in claim 1. As such, claims 14, 25, 31, and their respective dependent claims are each believed to be allowable over the cited art for at least the reasons set forth above with respect to claim 1.

2. *Independent Claims 8, 19, 30, and their respective dependents*

Independent claim 8 recites a method for detecting a forwarding problem within an autonomous system. The method includes forwarding a message from a source node of the autonomous system along a path to an external address that is not an address located within the autonomous system. A determination is made regarding whether a response to the message (the message that is sent along the path to the external address) is received from the destination node, which is not the message destination. The method also includes initiating a process to identify a source of the forwarding problem when it is determined that the response to the message is not received from the destination node.

As pointed out in the previous Amendment dated October 5, 2005, the Examiner does not appear to have addressed the limitation of initiating a process to identify a source of a forwarding problem when it is determined that a response to a message is not received from a destination node. However, the Applicant submits that neither Reinshmidt nor Bays, either alone or in combination, teaches of such a limitation. As such, claim 8 is believed to be allowable over the cited art for at least this reason.

Further, it is not clear to the Applicant how Bays is used in the rejection of claim 8. The Examiner states on page 4 of the Office Action dated January 26, 2006 that Bays “teaches a method, apparatus, and system facilitating determination of network path metrics wherein removing the message from the path at the destination node....” It is noted that there is no limitation in claim 8 that pertains to removing a message from a path at a destination node. There is no other reference to Bays in the rejections set forth by the Examiner.

Reinshmidt discloses sending a message. However, the Examiner does not appear to have addressed the limitation of determining whether a response to a message is received from a destination node in the Office Action dated January 26, 2006. It is respectfully that there is no teaching or suggestion in Reinshmidt of determining whether a response to a message (namely a

message sent to an external address through a destination node) is received from the destination node. Even assuming that the external address in Reinschmidt is associated with end user 11a of Fig. 1 and the destination node is router B2, there is no teaching or suggestion in Reinschmidt of router B2 (a destination node) sending a response to a message that is sent to end user 11a (an external address). As such, claim 8 is believed to be allowable over the cited art for at least the reasons set forth.

Claims 9-13 each depend from claim 8 and are each believed to be allowable over the cited art for at least the reasons set forth with respect to claim 8. Each of these claims also recites additional limitations which, when considered in light of claim 8, are believed to further distinguish the claimed invention over the cited art. By way of example, dependent claim 9 recites that initiating a process to identify the source of a forwarding problem includes sending a new message from the source to an intermediate node along a path. The new message is of substantially the same type as the message. The Examiner has argued that Reinshmidt teaches sending a new message as recited in claim 8. However, the Applicant is unable to locate any passage in Reinshmidt that teaches this limitation, and the Examiner has not cited any passages in Reinshmidt. Further, the Examiner argues that claim 9 has limitations similar to those in claim 8, yet the Examiner has not indicated which passages of Reinshmidt or Bays he believes teaches of initiating a process to identify the source of a forwarding problem. The Applicant believes that no combination of Reinshmidt and Bays teaches the limitations of claim 9, but is unable to specifically address the Examiner's rejection as the Examiner does not appear to have indicated how he believes the cited art teaches the limitations of claim 9. Accordingly, the Applicant believes that claim 9 is believed to be allowable over the cited art for at least these reasons as well.

Independent claims 19 and 30 each recite similar limitations as recited in claim 8. Accordingly, claims 19, 30, and their respective dependent claims are each believed to be allowable over the cited art for at least the reasons set forth above with respect to claim 8.

## Conclusion

For at least the foregoing reasons, the Applicant believes all the pending claims are in condition for allowance and should be passed to issue. If the Examiner feels that a telephone conference would in any way expedite the prosecution of the application, please do not hesitate to call the undersigned at (408) 868-4096.

Respectfully submitted,

Aka Chan LLP

/Peggy A. Su/

Peggy A. Su  
Reg. No. 41,336

Aka Chan LLP  
900 Lafayette Street, Suite 710  
Santa Clara, CA 95050  
Tel: (408) 868-4096  
Fax: (408) 608-1599  
E-mail: [peggy@akachanlaw.com](mailto:peggy@akachanlaw.com)